

Abstract

Thema works

Literature review of athletics nutrition (on case of sprinters, middle and long distance runners)

Student

Aneta Nová

Supervisor

PhDr. Aleš Kaplan, Ph.D., MBA

Aims of work

The aim of this thesis is to mention trends in nutrition of athletes in sprinter and running events on middle and long tracks. Review was made by analysis of Czech and foreign scientific literature. I wanted to find out how the eating and drinking regimes for the performance of sprinters and runners in athletics are described by various authors.

Methodology

To fulfill the aim of the thesis I used the method of literary research. I focused on Czech and foreign related literature sources. For searching Czech scientific sources I chose the following categories: runners nutrition, sprinter nutrition, energy regime in running events, energy regime in sprinter events, influence of nutrition on performance in running events, influence of nutrition on performance in sprinter events, drinking regime in running events, drinking regime in sprinter events, veganism in athletics. For searching foreign scientific sources I chose the following categories: nutrition, nutrition in sport, nutrition for runners, vegan and vegetarian nutrition, energy regime in running events.

Results

In my bachelor thesis, I included studies focused on problems related to nutrition in sprinters and middle and long-distance runners. I used papers indexed in the electronic databases - PubMed, Web of Science, Human Kinetics Journals. and books from the library at the UK FTVS.

A glycemic index and the influence of foods with different glycemic index were very frequently studied problems in the studies focused on athletes' performance. In addition to the issue of the glycemic index, I compared the differences in the metabolism of fats, carbohydrates and proteins before, during and after exercise. The glycemic index of carbohydrate played a dominant role in the runners' performance. Based on the study of literature, it seemed that the so-called "fast carbohydrates" with a high glycemic index were more suitable for sprinters and longer-absorbing carbohydrates were suitable for both sprinters as well as runners on middle and long-distance. The following authors deal most with the issue of energy cover: Jeukendrup, (2014), Clark, (2007), Rowlands et al. (2014) Moore; Midgley; Thurlow; Thomas; and McNaughton (2010).

Fluid intake is an integral part of the proper functioning of each organism. Vilikus (2015), Rowlands (2014), Maughan (2006), Clark (2009) and Brazier (2007) mainly addressed a topic of the drinking regime and its influence on the performance of runners. Almost all the authors were in concordance with a theory about amount of fluid needs during the day depending on training or competition. Only Fořt (2002) and Vilikus (2015) had a different opinion on what kind of liquids athletes should drink most often. While Fořt (2002) recommended drinking ionic drinks to replenish energy, Vilikus (2015) recommended rather drinking mineral pure water. Furthermore, an issue of artificial sweeteners, especially in sports liquids, was important. Harpaz, Yeo, Cecchini, Koon, Kushmaro, Tok, Marks and Eltz (2018) concluded that artificial sweeteners are very unfavorable to athletes.

On the issue of vegan and vegetarian diets, the authors did not match with fundamental questions about the impact of those kinds of diet on runners' performance. Authors such as Fort (2002), Clark (2009) and Melina et al. (2016) disagreed with the vegan and vegetarian diets; they rather preferred a well-balanced diet that included dairy and meat products. They argued that the runner needs high-quality proteins, mainly from meat, and that plant diet was not suitable for both runners and other athletes due to low protein, calcium and other necessary substances. On the contrary, Boldt, Lechleitner, Wirnitzer, Leitzmann, Rosemann & Knechtle

(2019), Fuhrman and Ferri (2010), Neal, Goldman, Loomis, Kahle, Levin, Neabore and Batts, (2019) said that vegetarian or vegan diet were more optimal for the human body than standard diet with animal products. They stated that vegetarian or vegan diet was beneficial to runners, because it did not clog arteries and blood vessels, which made a better blood flow and oxygenation faster. According to them, athletes might fully replace the necessary substances for the organism, which they were not able to gain from the plant diet, by different ways.

Key words

Athletics, nutrition, sport nutrition, eating habits, fluid intake, running events, sprinter event, nutrition and run, the effect of nutrition in performance in running events, the effect of nutrition in performance in sprint events, drinking regime in running events, drinking regime in sprint events, veganism in athletics.